

the elegant designs of our Oxford colleges, must deplore that so many fine achievements have been constructed in these friable fossils; and that the tasteful palace of Lord Ellesmere in the Green-park and the more severe and massive mansion of the Marquis of Hertford in Piccadilly are of so perishable a nature both as to colour and form.

Possibly in our smoky atmosphere the old maxim of "*nimum ne crede colori*" may be good, but I take it that the gloss of polish would resist the deposit of a sooty fog, and that a good shower of rain would be a perfect detergent for unseemly concretions such as those which defile St. Paul's; and it must be here remarked that the upper portion of that incomparable dome is nearly as clean as when first chiselled, because perhaps somewhat above the dense vapour, and more exposed to the rain-wash. I have often perceived at twenty-three miles' distance (in a right line) the whole upper portion of that edifice glittering in the sun, whilst the eddying London particular enveloped the whole "*pian' terreno*."

These remarks may be foreign to materialism, or the nature of the ingredient stone composing our great buildings; but if they show the advantage of polish, if they conduce to encourage labour amongst a now inert and discouraged, because redundant population, they will not prove altogether idle. Whatever increases the industrial habits of a people humanises and refines them, and the money expended on elaborate architecture, whilst it elevates taste amongst citizens of the metropolis, must in this wise extend the advantages and comforts of improvement to the long-sunken peasants of Ireland. QUONDAM.

DOCTORING DAMP WALLS.

I was much interested in your article of the 4th January, in regard to "Doctoring Damp Walls." In this country (N.B.) we have principally a damp stone-clay slate and its varieties to build with, and with an average of about sixty inches of rain we find damp a little difficult to deal with. This stone is both wet and damp; that is to say, it often has flaws, which admit rain when driven by storm through apparently solid stones of two or three feet, which perhaps show no crack when dry; and, on the other hand, even in internal walls, and in pavements, though laid hollow, as "*sweats*," as it is technically called, on some changes of weather. This is principally to be explained, I believe, by its being a bad conductor of heat, and therefore condensing moisture from the warmer air on a sudden change of weather, as a bottle of cold water does when brought into the air of a warm room.

Many years ago I tried the receipt for a "mongrel cement," as you call it, of tar, with kitchen grease, glass, and lime. I laid it on the inside of a wall and plastered on it, and except in one very small spot, the room has been perfectly dry ever since. I may mention that not having a very large supply of kitchen grease, I substituted "grease butter," such as is sold for sheep-smeared; and though I thought I had more broken glass than most private individuals, I was constrained to seek a substitute, which I found in smithy-ashes, or rather in slag from the forge. I have, however, since tried this in a large room close to the sea-side and a good deal exposed, but not built of slate-stone, but of a compact, flinty white limestone, containing a good deal of iron, and pointed with Roman cement. This is occasionally very damp. I also tried it on the inner face of the walls in our prison cells, which are of slate-stone and similarly exposed to the last. Here it has done much good, but the plaster still shows damp occasionally. I was told it had been much improved by washing with soda.

I made several small attempts at laying asphalt on the outer face of a wall, sometimes by dashing it on as in bailing, sometimes by pouring it into a sort of mould formed with wood or slate, or an iron plate; these, in many instances, adhered so strongly that they could not be got off entire: the dashing is also very troublesome to do, and I suspect

that, however put on, asphalt could not be trusted on the outside of a wall exposed to the sun, even in latitude 56°. Some years ago a very intelligent friend, now, alas, no more, recommended me to try doing my walls with a lather of soap and hot water, and, as soon as dry, sprinkling them with a saturated solution of alum. We prepared several places in this way, and, for many months, the effect was extraordinary—water, poured on the stone, running off as from a duck's back, without affecting it in the least, though the unprepared stone turns as dark as a slate as soon as wetted. I believe, however, that the effect of this is quite worn out, though my friend told me that he had done a church all over in some part of England, and that the operation had been effective for, I think, seven or eight years. I have heard of this as a plan for waterproofing cloth, and believe that this, or the similar plan of mixing alum with sugar of lead, and dipping cloth in it, was the plan for the application of which to the fleece on a sheep's back the late Mr. Smith, of Deanston, was taking out a patent when he died. I have since seen that a patent for a similar purpose was taken out by some one, whose name I forget.

I was unfortunately persuaded by an English builder to make an addition to my house of brick, under the idea that when properly cemented outside it was to be free both from wet and damp. I cannot complain of it as regards dryness; but I find it impossible to keep a respectable-looking face upon it. The plan we tried at the outset was very nearly one of the receipts you give: it was 1 cwt. sand, 5 lbs. litharge, 8 lbs. whitening, mixed with sufficient raw linseed oil to be workable. This makes a sand putty, which turns extremely hard, and bears a beautiful face. We also used it as a finishing instead of stucco on many internal walls with great success. Its first failure was near the ground, where it peeled or flaked off the second or third season. The more exposed face soon after began to come off, principally from below the projecting stone mouldings and copes, which were fine sandstone from the Garescube quarries. It still remains, after fourteen or fifteen years, on the more sheltered parts; but failing even there in patches. We have since tried Roman cement with very little success; then Arden lime (a sort of Scotch Roman cement), which has been little better; and now I should be glad to try almost any reasonable suggestion. I have often thought of facing it with stone; but this, to look well, must be carried up extremely thin, so as not to cause the building to project much, as it is in a line with the older (and some newer) stone building. I have thought of tile facing, and even of trying a fusible cement, to be laid on with a blow-pipe. If you or any of your correspondents can suggest the best cure, I shall be not a little grateful. The building is about 30 feet high, by 60 long, with a 12 feet projection of 6 feet in the middle, and with about 20 inch octagon angle columns both at the extreme ends and at the angles of the central projection. I may add, that Glasgow bricks are not exactly the best in the world, and have very little suction in the surface. In some cases where I had used them for internal walls, and plastered upon them, the walls have been very damp. I cured one of these completely some years ago with india-rubber lining, but it was both troublesome and expensive.

In these cases we blamed sea sand for the dampness of the plaster; but in the outside sand putty we used nothing but pounded freestone shivers, in order to avoid this supposed danger. I intended to have written, as you say many correspondents have done, to ask the proportions of your proposed recipe. I see them in your paper of the 18th, and hope to give them a trial, and to report the result. I wish, also, that any of your correspondents could inform me how far gutta percha pipes are successfully used for bringing in water under pressure; and whether, when laid in the ground, they require protection from either mechanical or chemical injury? I see notice of a patent for the use of lime to improve and preserve gutta percha. In many instances I

have heard of lime (in mortar) attacking and corroding lead when laid in it.

HYPERBOREAN.

UNION OF ARCHITECTS AND ENGINEERS.

IN the course of the discussion at the Institute of Architects, on the 13th ult., Mr. Tite lamented the separation of the two professions, which, he said, had been identical until within the last few years,—so few, indeed, that many there could remember men who had practised successfully in both, and had united in their persons the characters of architects and civil engineers, and it seemed to me to be a prevailing cause of regret among the majority of the Fellows and Associates of the Institute that the breach was every day widening, and that petty rivalries were springing up between members of these twin professions, whose common object ought to be the advancement, and, if possible, the perfection of the various branches of constructive art, by finding the means of obtaining the maximum of strength with the minimum of materials, and of adorning, as far as practicable, according to the rules of architectural beauty, the almost innumerable structures which the requirements of this advanced age have called into existence.

With a view to make engineers and architects work more in concert for the future, and enable them to profit by each other's experience, I venture to make some suggestions which, if carried out, would, I feel convinced, be of the greatest advantage, both to themselves, individually and collectively, and to the public. Allow me then, sir, to propose, through the medium of your useful periodical, that the Institutions of Architects and Civil Engineers throughout every country, should agree *de part et d'autre*, to admit members of the sister profession to an *ad eundem* rank or grade, without going through the form of electing them *de novo*. For instance, if a member of the Institution of Civil Engineers was desirous of becoming a fellow of the Institute of Architects, or vice versa, he should be admitted *ad eundem*, and should enjoy all the rights and privileges which he had obtained in his own Institution. In the same manner, Associates of the one should have the option of becoming Associates in the other: thus the professions would interchange valuable ideas for their common good, identify themselves with each other's proceedings, and they would thus mutually assist, by their combined labours, in raising monuments of their skill which would surpass all that has yet been achieved, and would remain as lasting memorials of the superiority of mind over matter, graced with the legitimate adornments which taste and refinement would appropriately supply.

Of course I do not say that building churches and houses, &c., comes within the province of the civil engineer, any more than constructing a railway, making a harbour, or erecting a lighthouse could properly be said to come into the category of an architect's ordinary avocations: still I do think that much more might be done were the professions more closely allied. Each engineer—each architect—has his own business to carry on separately and independently of the other members even of his own profession. Yet he finds an advantage in meeting his professional brothers at the institution to which he belongs—reading a paper, discussing some subject of general interest, hearing opinions volunteered, and obtaining useful hints to guide him under similar circumstances for the time to come.

And while I propose this co-operation between engineers and architects, I would strongly urge upon them both to agree upon some plan of keeping their professions select, by devising a means for preventing the intrusion of interlopers, and I think the way to act under present circumstances is to recognise the claims of all who now exercise the calling of either engineer or architect, irrespective of their past history, to look upon their introduction into the profession as a *fait accompli*, and to have a list of such persons forthwith made out; but